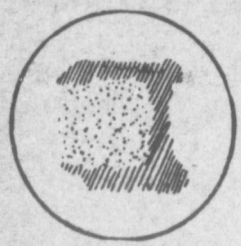
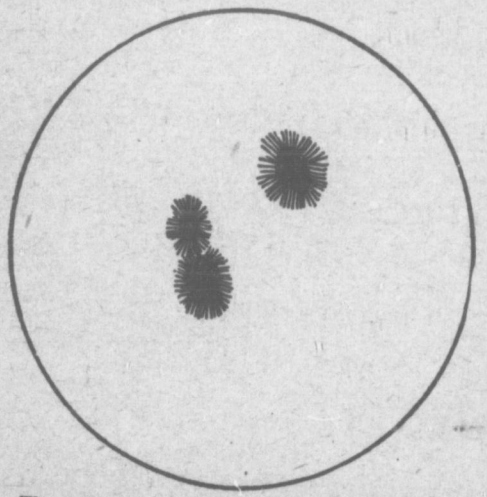
MARS, so far as my observations go, will remain a sealed book in a small lens. He is the most disappointing of all, owing to his small size, and naturally so, when we theorize so much on his probable conditions. I have only been able to note a sort of duskiness in his centre in a 2 inch lens, which, with the necessary increase of telescopic power, proved to be what is known as the "hour glass sea," a drawing of which is shown, as seen in a larger telescope. I could also "imagine" rather than "see" that one of his poles was brighter than the rest of his disc.



Mars. The "Hour Glass Sea." Drawn by Hooke.

MERCURY will reveal nothing. Perhaps if he were located in the daytime, when near inferior conjunction, a small lens, say of two inches, might show his crescent form.

THE SUN, grand as it is, must not be looked at first. If the amateur values his eyesight he will familiarize himself with planetery and stellar observation ere he turns his tube to the Sun. To avoid permanent injury to the eyes, several round discs of blue glass should be obtained (I used three). These discs should be placed in a temporary card or metal tube, and fixed on the telescope between the eye-piece and the eye, as described in my articles on the Transits of Mercury. By this means, views of solar spots will be readily obtained, even in the small telescope to which I refer. Much instruction can be gained by attempting to draw the spots as they appear.



The Sun, November 4th, 1894, in 1⅝ inch lens. (Drawn by the Author.)

[I hope to continue with descriptions of stars, star-clusters, Nebulæ, double stars, etc., in a future issue.]